

WORK INSTRUCTION		
Title: Annual and Five-Year Maintenance Inspections		
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Approved for Use by: <u>Michael R. Brown</u> Effective Date: <u>February 2006</u>		
Applicable Drawings: <ul style="list-style-type: none">• 2077-500SNP (Sheets 1-11) - TRUPACT-II Packaging SARP Drawings• 707-SAR (Sheets 1-12) - HalfPACT Packaging SARP Drawings		
Safety Analysis Report for Packaging (SARP) Requirements: <ul style="list-style-type: none">• Chapter 8.0, Section 8.2, Perform visual inspection of Inner Containment Vessel (ICV)• Chapter 8.0, Section 8.2, Annually inspect fasteners (bolts, plugs, covers)• Chapter 8.0, Section 8.2, Annually perform dimensional inspections• Chapter 8.0, Section 8.2, Annually replace containment boundary O-ring seals, wiper O-ring, and ICV debris shield• Chapter 8.0, Section 8.2, Perform structural pressure tests every five years• Chapter 8.0, Section 8.1, Perform Visual and PT inspections upon completion of Pressure Test• Chapter 8.0, Section 8.2.2, Perform Maintenance Leakage Rate Testing in accordance with ANSI N14-5, Periodic Leakage Rate Test		
Tools Required: <ul style="list-style-type: none">• None, tools are listed in other implementing instructions.		
Spare Parts Required: <ul style="list-style-type: none">• None, parts are covered by other implementing instructions.		
Materials Required: <ul style="list-style-type: none">• None, materials are covered by other implementing instructions.		
Safety Requirements: <ul style="list-style-type: none">• Safety will be observed in accordance with site requirements.		
Prerequisite Conditions: <ul style="list-style-type: none">• The packaging is due for annual or five-year scheduled maintenance.		
Annual Requirements: <ul style="list-style-type: none">1.0 Perform visual inspection of the ICV per Attachment 1.<ul style="list-style-type: none">• Replace the components listed with an annual frequency (A).• Attach the completed inspection checklist (Attachment 1) to the Maintenance Record.2.0 Perform visual inspection of the Outer Containment Assembly/Outer Containment Vessel (OCA/OCV) per Attachment 2.<ul style="list-style-type: none">• Replace the components listed with an annual frequency (A).• Attach the completed inspection checklist (Attachment 2) to the Maintenance Record.3.0 Perform annual dimensional inspections per the following Work Instructions:<ul style="list-style-type: none">• WI-CH.08• WI-CH.09• WI-CH.10• WI-CH.11• WI-CH.13		

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<p>NOTE: If performing the five-year maintenance inspections in conjunction with the annual inspection, perform the liquid penetrant examinations after the structural pressure test.</p>		
<p>4.0 Perform annual inspection of the ICV in accordance with Section 8 of the TRUPACT-II and HalfPACT SARPs.</p> <ul style="list-style-type: none">• Attach a copy of the inspection report to the Maintenance Record. <p>5.0 Perform helium leak testing of the ICV containment seals.</p> <ul style="list-style-type: none">• Attach a copy of the test report to the Maintenance Record. <p>6.0 Perform helium leak testing of the OCV containment seals.</p> <ul style="list-style-type: none">• Attach a copy of the test report to the Maintenance Record.		
<p>Five-Year Requirements:</p>		
<p>NOTE: In addition to the annual requirements, the following requirements must be performed every five years.</p>		
<p>1.0 Perform structural integrity pressure test in accordance with Section 8 of the TRUPACT-II and HalfPACT SARPs.</p> <ul style="list-style-type: none">• Attach a copy of the test report to the Maintenance Record. <p>2.0 Perform helium leak testing of the ICV containment seals and structure.</p> <ul style="list-style-type: none">• Attach a copy of the test report to the Maintenance Record. <p>3.0 Perform helium leak testing of the OCV containment seals and structure.</p> <ul style="list-style-type: none">• Attach a copy of the test report to the Maintenance Record.		
<p>Verification Requirements:</p>		
<ul style="list-style-type: none">• All work performed is described on the Maintenance Record.• Deficiencies found during inspections have been corrected and annotated on the Maintenance Record.• Any additional instructions or travelers are attached to the Maintenance Record.• Work instructions are listed on the Maintenance Record.• All data sheets are attached to the Maintenance Record.		

Attachment 1 - ICV Inspection Checklist

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Packaging Serial Number: _____ Date: _____ Job Number: _____		(1) ✓	(2) ✓	(3)	WIPP PO Number (4) (only if replaced)	Initials (5)
ICV Loose Components						
ICV Vent Port Cover (2077-156-11)	No damaged threads or damaged recessed head					
ICV Vent Port Cover Seal (2077-180-16 [gasket]) or (2077-180-16A [O-ring])	No visible damage					
ICV Outer Vent Port Plug (2077-156-09)	No damaged threads or damaged recessed head					
ICV Outer Vent Port Plug Seal O-Ring (2077-180-21)	No visible damage			A		
ICV Inner Vent Port Plug (2077-156-10)	No damaged threads or damaged recessed head					
ICV Inner Vent Port Plug Seal O-Ring (2077-180-22)	No visible damage					
ICV Upper Main O-Ring Seal (2077-180-09)	No visible damage			A		
ICV Lower Main O-Ring Seal (2077-180-19)	No visible damage					
ICV Seal Test Port Insert (2077-156-05)	No damaged threads or damaged sealing area					
ICV Seal Test Port Plug (2077-156-07)	No damaged threads or damaged recessed head					
ICV Seal Test Port Plug Seal O-Ring (2077-180-24 or 2077-160-26)	No visible damage					
ICV Wiper O-Ring Seal (2077-180-27)	No visible damage			A		
ICV Lock Bolts (2077-156-A1)	No damaged threads or damaged recessed head; welds intact					
1.0 Check in this column indicates that the item has been visually inspected and cleaned as necessary. 2.0 Check in this column indicates that the item has been replaced. 3.0 An "A" in this column indicates that this item is required to be replaced during annual maintenance. 4.0 Record the WIPP purchase order number of the item or component that was replaced in this column. 5.0 Initials of person performing step.						

Attachment 1 - ICV Inspection Checklist

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Packaging Serial Number: _____ Date: _____ Job Number: _____		(1) ✓	(2) ✓	(3)	WIPP PO Number (4) (only if replaced)	Initials (5)
ICV Body Components						
ICV Vent Port Insert (2077-156-06)	No damaged threads or damaged sealing area					
ICV Upper and Lower Flange Sealing Surfaces (grooves and flats)	No scratches causing leakage or finish >125 micro-finish					
ICV Visible Shell (Body) Surfaces	No dents over 0.5 in. deep, gouges causing wall thickness to be less than 0.240 in., weld cracks, or punctures					
ICV Lock Bolt Threaded Inserts (2077-160-28)	No damaged threads or missing insert lock keys					
ICV Locking Ring (2077-182-03)	No defects that impair general operation					
ICV Lower Spacer (2077-053-A2)	No damaged or missing fasteners, no punctures in plate					
ICV Body Inner Surfaces	No signs of corrosion					
ICV Lid Components						
ICV Painted Markings	Markings are clear and not worn					
ICV Lid Visible Surfaces	No dents over 0.5 in. deep, gouges causing wall thickness to be less than 0.240 in., weld cracks, or punctures					
ICV Upper Spacer (2077-053-A1)	No damaged or missing fasteners, no punctures in plate					
ICV Wiper O-Ring Holder (2077-156-08)	No distortion affecting operation					
ICV Lid Inner Surfaces	No signs of corrosion					
ICV Debris Shield (2077-180-25)	No visible damage			A		
1.0 Check in this column indicates that the item has been visually inspected and cleaned as necessary. 2.0 Check in this column indicates that the item has been replaced. 3.0 An "A" in this column indicates that this item is required to be replaced during annual maintenance. 4.0 Record the WIPP purchase order number of the item or component that was replaced in this column. 5.0 Initials of person performing step.						
Inspection	Sat	Unsat	Initials			
ICV Lid						
ICV Body						
ICV Loose Components						

Attachment 2 - OCA Inspection Checklist

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Packaging Serial Number: _____ Date: _____ Job Number: _____		(1) ✓	(2) ✓	(3)	WIPP PO Number (4) (only if replaced)	Initials (5)
OCA Loose Components						
OCV Vent Port Access Plug (2077-156-13) and OCV Vent Port Thermal Plug (2077-156-15 [foam] or 2077-156-15A [ceramic paper])	No damaged threads or damaged recessed head; thermal plug not damaged					
OCV Vent Port Cover Seal O-Ring (2077-160-16)	No visible damage					
OCV Vent Port Plug (2077-156-17)	No damaged threads or damaged recessed head					
OCV Vent Port Cover (2077-156-18)	No damaged threads or damaged hex head					
OCV Vent Port Plug Seal O-Ring (2077-160-17)	No visible damage			A		
OCV Vent Port Cover Handling O-Ring (2077-160-19)	No visible damage					
OCV Vent Port Plug Handling O-Ring (2077-160-18)	No visible damage					
OCV Upper Main O-Ring Seal (2077-160-15)	No visible damage			A		
OCV Lower Main O-Ring Seal (2077-160-24)	No visible damage					
OCV Seal Test Port Access Plug (2077-156-12) and OCV Seal Test Port Thermal Plug (2077-156-14 [foam] or 2077-156-14A [ceramic paper])	No damaged threads or damaged hex head, thermal plug not damaged					
Forklift Pocket Cover (2077-171-11 [right side] and 2077-171-12 [left side])	No distortion affecting operation					
Forklift Pocket Cover Screws (2077-160-30)	No damaged threads					
Annulus Debris Seal (Optional) (2077-156-21)	No visible damage					
OCV Seal Test Port Plug Seal O-Ring (2077-160-26 or 2077-180-24)	No visible damage					
OCA Lock Bolts HalfPACT (2077-156-A1) TRUPACT-II (2077-156-A1 or 2077-156-A2)	No damaged threads or damaged recessed head, welds intact					
OCV Seal Test Port Plug (2077-156-07)	No damaged threads or damaged recessed head					
1.0 Check in this column indicates that the item has been visually inspected and cleaned as necessary. 2.0 Check in this column indicates that the item has been replaced. 3.0 An "A" in this column indicates that this item is required to be replaced during annual maintenance. 4.0 Record the WIPP purchase order number of the item or component that was replaced in this column. 5.0 Initials of person performing step.						

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Component/Part Number	Acceptance Criteria	(1) ✓	(2) ✓	(3)	WIPP PO Number (4) (only if replaced)	Initials (5)
OCA Body Components						
OCV Vent Port Fitting (2077-156-19)	No damaged threads or damaged sealing area					
OCV Upper and Lower Flange Sealing Surfaces (grooves and flats)	No scratches causing leakage or finish greater than 125 micro-finish					
OCA Lock Bolt Threaded Inserts (2077-160-28)	No damaged threads or missing insert lock keys					
OCV Lower Shell (Body) Surfaces	No dents over .5 in. deep, gouges causing wall thickness under .240 in. for 1/4-in. material or .365 in. for 3/8-in. material, weld cracks, or punctures					
OCA Vent Port Coupling (outboard) (2077-173-13)	No damaged threads or cracked welds					
OCV Seal Test Port Insert (2077-156-05)	No damaged threads or damaged sealing area					
Ceramic Fiber Gasket (2077-160-27)	No tears or excessive wear					
OCA Lower Burnout Plugs (6) (2077-170-06)	Tightened and not missing					
OCA Lower Burnout Plug Flanges (2077-173-15)	No damaged threads or cracked welds					
Forklift Pocket Cover Threaded Inserts (2077-160-29)	No damaged threads or missing insert lock keys					
Cushion/Wear Pad (2077-156-23)	Not torn or missing					
OCA Seal Test Port Coupling (2077-167-06)	No damaged threads or cracked welds					
1.0 Check in this column indicates that the item has been visually inspected and cleaned as necessary. 2.0 Check in this column indicates that the item has been replaced. 3.0 An "A" in this column indicates that this item is required to be replaced during annual maintenance. 4.0 Record the WIPP purchase order number of the item or component that was replaced in this column. 5.0 Initials of person performing step.						

Attachment 2 - OCA Inspection Checklist

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Component/Part Number	Acceptance Criteria	(1) ✓	(2) ✓	(3)	WIPP PO Number (4) (only if replaced)	Initials (5)
OCV Lid Components						
OCA Painted Markings	Markings are clear and not worn					
OCV Lid Visible Surfaces OCA Lid Visible Surfaces	No dents over .5-in. deep, gouges causing wall thickness under .240 in. for ¼-in. material or .365 in. for 3/8-in. material, weld cracks or punctures					
OCV Locking Ring (2077-162-03)	No defects which impair general operation					
OCV Locking Z Flange (2077-161-01)	No defects which impair general operation					
OCA Upper Burnout Plugs (3) (2077-170-06)	Tightened and not missing					
OCA Guide Plates (2077-163-11) (optional)	Screws tight, not missing					
OCA Lift Pocket Cover (2077-163-06)	Not damaged or missing					
OCA Lift Pocket Tube (2077-163-02)	Not damaged or missing					
OCA Lift Pocket Cover Screw (2077-163-08)	Not damaged or missing					
OCA Lift Pocket Cover Clip (2077-163-10)	Not damaged or missing					
OCA Lift Pocket Cover Nut (2077-163-09)	Not damaged or missing					
OCA Lift Pocket Cover Fasteners (Tool Holder) (2077-163-05)	Not damaged or missing					
OCA Lift Pocket Tube Attachment Screw (2077-163-03)	Not damaged or missing					
OCA Lift Pocket Tube Washer (2077-163-04)	Not damaged or missing					
OCA Lift Pocket Cover Lanyard (2077-163-07)	Not damaged or missing					
OCA Upper Weld Flanges (2077-163-12)	No damaged threads or cracked welds					
1.0 Check in this column indicates that the item has been visually inspected and cleaned as necessary. 2.0 Check in this column indicates that the item has been replaced. 3.0 An "A" in this column indicates that this item is required to be replaced during annual maintenance. 4.0 Record the WIPP purchase order number of the item or component that was replaced in this column. 5.0 Initials of person performing step.						
Inspection	Sat	Unsat	Initials			
OCA/OCV Lid						
OCA/OCV Body						
OCA/OCV Loose Components						